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THE SNOWDROP *

By E. H. Ussher.

Snowdrops come up saying their prayers—blade to blade—instead of palm to palm. Then the leaves gradually separate, and in between appear the green ribs of a sheath which is tightly stretched like a gossamer shawl round the bud. If the gossamer itself, instead of its framework, were exposed at these slits between the leaves, the buds would not be nearly so well protected from wind and weather. The gossamer fits so neatly that most people cannot find the place where its edges meet, and tear the shawl in trying to get it off. But the bud is cleverer. When its head grows big and heavy and wants to nod, this drowsy bud does a wideawake thing. It pokes towards the slit, and without a single mistake or clumsy rent drives its head through. Then day by day it bends more forward, and day by day throws the gossamer further back. At last, when the bud is right off to sleep—that is to say, when the head droops so far forward that it can drop no further—the ribs of the sheath are left standing bolt upright and the gossamer shawl shrunk so tight between them that the careless observer would not see it at all. Gradually the useless old gossamer loses its sheen and crumples like Miss Haversham's wedding dress. But "useless" is a rash word, for Nature does not waste her rags.

To return to our bud. Perhaps in earliest babyhood, still nursed between the leaves and underground—perhaps even before it has emerged from the wrappings of the bulb—the length of the six white leaves (of a single flower) is equal. But still the three outermost leaves have an exceedingly early start of the three inner ones. So soon as the white of the bud shows at all, it is found that the outer leaves just out-tip the inner, and that one of the three outer leaves hoods its companions by means of a bent crease at the tip. These outer leaves continue to grow with the growth of the whole plant, and sometimes, though rarely, grow twice the length of the inner leaves and treble the length of the dust threads. The inner covering leaves of the flower are much stiffer and more juicy than the outer leaves, and their green stripes are

* A lesson for young people on the life-history of the Snowdrop, written to illustrate and explain a leather work and embroidery design suitable for village art classes.

full of honey. Facing each white leaf is a yellow bag of dust four times the length of the thread which carries it. (Fig. of anther, much enlarged, in Kerner's *Natural History of Plants.*) "Thread" is simply a translation of the usual term "stamen": "dust leaf" would convey a better idea of what we really have to do with. A swollen leaf blade, or part of a blade, forms each tiny bag, and the thread is simply a little leaf stalk—hard to recognize, but still a leaf stalk. The upper and lower skin of the blade puff out in opposite directions, and the hollow in between is full of the dust food, without which seeds may not ripen. Every seed of every plant has a mouth open, waiting for this food.* How does the dust get from the bag to the mouth? You shall hear presently.

Meanwhile look at all the double flowers you can find. The seeds have waited for the dust food in vain. They are starved and shrivelled; because the dust leaves have only half minded their business or perhaps not minded it at all. The bags are empty or misshapen—sometimes they are not to be found. In big flowers like tulips or daffodils this is very plain to see. The dust threads flaunt big blades—they are dressed gaily in flowing robes, but they are empty-headed. The double snowdrop is less showy, but quite as vain. It seems to have forgotten why the single flower has dust threads at all, and puts out badly-shaped white blades with a mid-rib projecting beyond, thinking perhaps that that will do just as well.

Now let us go back to the business-like single snowdrop. The bags are so close together that they touch along their sides and meet at the tips in a cone shape, and from the tip of the cone hangs out a tassel of yellow tongues: they are the central-rib tips of the dust leaf blades. When a bee comes along he knocks his head against them so that the whole hanging cone shakes and the dust falls out in a shower on the bee's head. Then in the next flower on which the bee settles the same thing happens again, but the first supply of dust is left sticking to the greenish tip of the seed vessel. This pillar-shaped tip is like the dust-shoot of dwellers in flats; only instead of *being* shot, the dust shoots, by its own living power, down and down and down, till it reaches the mouths of the seeds and makes them alive too.

* The actual dust grains do not constitute the food, but certain elements *within* the grains.

On dull days the little winged dustmen stop at home, and the flower closes round the bags so that their contents may not get wet. And even in bright weather the flowers close from about four in the afternoon till about ten in the morning, Dustmen get up late through the dark days of the early year. and they go to bed early. But to make up for scarcity of dustmen and bags, and for there being only one flower to each plant—to make up, in short, for all drawbacks, snowdrops last a long time—even as much as sixteen days or more in their prime. An opium poppy, with its wealth of dust leaves, withers in forty-eight hours.

Nature is very fair in her arrangements, and snowdrops have as good a chance as other flowers of spreading far and wide, and not only with the help of winged dustmen. Ants often belong to the household of a snowdrop, and are useful servants. Like the little Peterkin, they are attracted by hard round things and carry the snowdrop seeds into all sorts of odd places where they would not otherwise get.

Like other bulbous European plants, the snowdrop is fond of the mould of woods where the ground never completely freezes, and where, by the time the trees are in leaf, the flowers are over and need light no longer. These conditions are a curious contrast to those of the hot, dry climates where many bulbs flourish peculiarly. There the flowers are over along with the wet season, and the ground, caking dry and hard around the bulbs, preserves them.

Though the snowdrop grows wild in many parts of England, it is probably only a foreigner which has made itself at home. Notice how it varies in habit according to season and situation. A warm November will bring the flowers up and out, but they do not last so long or grow so well as in the spring, when perhaps the days are colder. It is very wonderful how plants abide their season: all the rudiments of a snowdrop may be found between the scales of a bulb as early as the end of September; yet the plant usually remains patiently tucked inside its blankets till the spring. Even then, if warm days lure it out too soon, the stalk has no time for proper growth, and the flower, without even space to nod, is forced by the surrounding earth to hold up its head like a horse with a bearing rein. On the other hand, snowdrops drawn up by trees and undergrowth sometimes grow stalks a foot long.